pin **100** escapes from the detent, it moves distally such that the clamp slide pin **100** once again is positioned against the first surface **160** of the wall or walls **35**, **37** of the clamp lock **34** distal to the detent **102**. This motion of the clamp slide **94** unclamps the end effector **4** in substantially the opposite manner as initial motion of the clamp slide **94** caused clamping of the end effector **4**. Contact between the clamp side pin **100** and the first surface **160** moves the clamp lock tail **32** back into engagement with the ratchet tooth **148**, as shown in FIG. **9**. The end effector **4** is now unclamped and can be removed from the stapled tissue by the user. As another example of operation, the surgical stapler **2** may be reset by unclamping, then resetting the feeder belts **90** to place fresh staples in position for deployment. The surgical stapler **2** can now be repositioned, clamped again, and actuated again to deploy more staples.

The operation of the surgical stapler **2** may be carried out in the course of testing at a factory or other location. If so, the user that possesses the surgical stapler **2** may be a technician, machine or text fixture that exercises the surgical stapler **2** in the course of testing. The term "tissue," in the context of testing the surgical stapler **2** only, includes any substance or material used as a substitute for tissue in the course of testing.

While the invention has been described in detail, it will be apparent to one skilled in the art that various changes and modifications can be made and equivalents employed, without departing from the present invention. It is to be understood that the invention is not limited to the details of construction, the arrangements of components, and/or the method set forth in the above description or illustrated in the drawings. The use of terms such as "upward" and "downward" in this document refers to the orientation of parts on the page for descriptive clarity, and in no way limits the orientation of the device in use. Statements in the abstract of this document, and any summary statements in this document, are merely exemplary; they are not, and cannot be interpreted as, limiting the scope of the claims. Further, the figures are merely exemplary and not limiting. Topical headings and subheadings are for the convenience of the reader only. They should not and cannot be construed to have any substantive significance, meaning or interpretation, and should not and cannot be deemed to indicate that all of the information relating to any particular topic is to be found under or limited to any particular heading or subheading. Therefore, the invention is not to be restricted or limited except in accordance with the following claims and their legal equivalents.

What is claimed is:

1. Surgical apparatus, comprising:

an end effector; and

a handle operationally connected to said end effector, said handle including a trigger and a mode button wherein the trigger, a deployment trigger gear and a clamp trigger gear are pivotable about the mode button;

wherein said mode button is first in a neutral position in which actuation of said trigger causes said end effector to move to a clamped configuration; and

wherein said mode button is movable laterally to a second position in which actuation of said trigger causes said end effector to deploy staples.

2. The surgical apparatus of claim **1**, wherein said mode button is biased to said neutral position.

3. The surgical apparatus of claim **1**, further comprising said deployment trigger gear and said clamp trigger gear located in said handle, wherein said trigger selectively engages only one at a time of said deployment trigger gear and said clamp trigger gear; wherein engagement of said trigger with said clamp trigger gear occurs when said mode button is in said neutral position and engagement of said trigger with said deployment trigger gear occurs when said mode button is in said second position.

4. The surgical apparatus of claim **1**, wherein deployment of all said staples from said end effector requires more than one actuation of said trigger.

5. Surgical apparatus, comprising:

a handle; comprising

a mode button;

a trigger pivotable about said mode button;

a ratchet pivotally connected to said trigger;

a deployment trigger gear pivotable about said mode button; and

a clamp trigger gear pivotable about said mode button.

6. The surgical apparatus of claim **5**, wherein said ratchet includes a laterally-extending ratchet tooth, and wherein said clamp trigger gear includes a laterally-extending clamp trigger gear tooth; wherein rotation of said trigger causes rotation of said ratchet, which in turn causes said ratchet tooth to engage said clamp trigger gear tooth and cause said clamp trigger gear to rotate.

7. The surgical apparatus of claim **5**, further comprising a clamp lock pivotable relative to said handle, wherein a proximal end of said clamp lock is biased downward and a distal end of said clamp lock is biased upward.

8. The surgical apparatus of claim **7**, further comprising a clamp slide fixed to a clamp belt, wherein said clamp slide includes a clamp slide pin; wherein in an initial configuration said clamp slide pin is located on a first surface of said clamp lock, and wherein said clamp belt is movable to move said clamp slide pin into engagement with a detent defined on an upper surface of said clamp lock proximal to said first surface, said detent biased upward along with the remainder of the distal end of said clamp lock.

9. The surgical apparatus of claim **7**, further comprising a clamp lock tail extending proximally and downward from a proximal end of said clamp lock, wherein said clamp lock tail engages a ratchet tooth in an initial configuration of said handle.

10. The surgical apparatus of claim **5**, wherein said ratchet stands off from a deployment gear when said handle is in an initial configuration.

11. The surgical apparatus of claim **10**, wherein a single actuation of said trigger rotates said clamp trigger gear through an arc to a clamped position, wherein said clamp trigger gear remains in said clamped position after said trigger is released.

12. The surgical apparatus of claim **11**, wherein after said rotation of said clamp trigger gear to said clamped position, said mode button is actuable, after which said ratchet moves into engagement with deployment trigger gear.

13. The surgical apparatus of claim **12**, further comprising a deployment belt and a deployment slide fixed to said deployment belt; wherein, after said ratchet moves into engagement with said deployment trigger gear, at least one actuation of said trigger causes rotation of said deployment trigger gear, which in turn causes said deployment belt to rotate and said deployment slide to move distally.

14. The surgical apparatus of claim **13**, wherein said deployment trigger gear includes an unclamp cam along its outer perimeter, and a plurality of outer teeth.

15. The surgical apparatus of claim **13**, wherein said deployment slide is manually returnable to its initial position, such that said deployment slide moves said deployment belt and in turn returns the deployment trigger gear to its initial position.

16. The surgical apparatus of claim **5**, wherein said mode button is biased to a neutral position.

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